North Dakota

Cardiac Ready Community Designation

Guidelines

In rural North Dakota, there can be time delays before first responders can arrive at the scene in time to help cardiac arrest patients. Cardiac Ready Community designation works to improve several of the elements of cardiac care.

The North Dakota Division of EMS & Trauma has partnered with the American Heart Association to provide this program through the North Dakota Cardiac System of Care. The North Dakota Cardiac Ready Community program is designed to promote survival from a cardiac event, such as sudden cardiac arrest (SCA) which occurs outside of the hospital setting. The goal is to have a community prepared to respond and assist if an individual has a cardiac event. The Cardiac Ready Community program promotes the American Heart Association Chain of Survival, which can improve the chances of survival and recovery for victims of heart attack, stroke, and other emergencies. It is important for individuals to be able to recognize a cardiac emergency, know how to dial 9-1-1 to access first responders immediately, begin cardiopulmonary resuscitation (CPR), and have public access to Automated External Defibrillators (AEDs).

Five Links in the Chain of Survival

- Immediate recognition of cardiac arrest and activation of the emergency response system
- Early CPR with an emphasis on high quality chest compressions
- Rapid defibrillation
- Effective basic and advanced life support
- Integrated post-cardiac arrest care

The North Dakota Cardiac Ready Community Designation has a set of minimum criteria a community must achieve to receive the status. The criteria support the chain of survival, such as CPR instruction, public access to AEDs, hypertension screenings, and resuscitation protocols and transport plans for first responders and area hospitals. Communities which meet the established criteria can apply to become designated as a North Dakota Cardiac Ready Community. If a community does not meet the established criteria, it can take steps to work towards designation.

How to Become a Cardiac Ready Community

Analyze Your Community's Situation- Every community is different, with unique challenges to forming a strong chain of survival. Review the common elements of being a Cardiac Ready Community and compare to what your community is currently working with. Decide what needs to be changed or strengthened in your community to improve the chain of survival. Some examples to consider include:

- Do major public gathering places or businesses in your community have AEDs available and staff trained in CPR?
- What is the response time of EMS in your community? Are there areas in which it is frequently prolonged?
- Does your community have a hospital? If not, where is the nearest hospital?
- What percentage of your population is trained in CPR?
- Does an organization in your community offer preventative screenings such as blood pressure screenings?
- What is the survival rate in your community from cardiac arrest?

Build a Support Team- Implementing a widespread change in the community requires support. This isn't possible without many parties committing to the cause. Public support is an important aspect of this program. Public support can be affected through media campaigns using social media, newspapers, and television stations. Events such as CPR trainings and survivor stories are often of interest to news stations and offer free publicity to spread your message. Your community

should have a team responsible for leading and organizing what is needed to meet the designation criteria. Look to the following areas for representatives:

- City Council
- EMS, Fire, and Police
- Nurses
- Hospital/Clinic
- Public Health
- Elected Officials
- Dispatch or Public Safety Answering Point (PSAP)
- CPR Instructors
- Chamber of Commerce
- Public High School Administration
- Major Employers in the Community
- Survivors

Information Meeting- Once you build a community support team, contact the North Dakota Cardiac System to arrange a meeting to discuss the criteria needed for your community to become a designated North Dakota Cardiac Ready Community. We realize that each community is different and has unique needs and challenges, so we would like the opportunity to sit down with your team to discuss your city's goals and what the specific criteria will be for your community. You can contact Christine Greff at cgreff@nd.gov for more information.

Implement & Track Changes-Once your community understands the criteria you need to fulfill, you can begin to make changes to work towards becoming a Cardiac Ready Community. It is important for your planning team to keep record of what events you hosted, how many people participated, cardiac survival rates, and other data. We ask that you collect this data to assist in evaluating the effectiveness of the changes your community is making and use it to further focus your community's efforts. It will assist your community to see what is working and what isn't.

Designation-Once you feel your community has satisfied the criteria established with the North Dakota Department of Health, request designation. A representative from the

ND Department of Health will assess whether your community has met the set criteria. Your community will receive either a designation as a North Dakota Cardiac Ready Community or feedback on areas for improvement before designation will be granted. North Dakota Cardiac Ready Community Designation will be valid for three years, at which time your community will need to renew the designation.

Community Leadership

Through group meetings of all stakeholders in a community (EMS providers, health care providers, hospital personnel, law enforcement, city/county officials, fire department, churches, schools, public health officials, civic groups, etc.) an organization should be selected to spearhead the Cardiac Ready Community effort. This group will ideally have an individual who becomes the "face" of the program in that community. This person is not "in charge" but is the coordinator of all stakeholders who want to see their community become a Cardiac Ready Community. Other groups and entities must still play their part to see the program succeed.

It is the goal of the Cardiac Ready Community program that a single organization leads the community effort with support from the entire population. This organization will be responsible for data collection and reporting on the Cardiac Ready efforts.

Community Leadership

	Organizations are working independently to improve cardiac readiness within the community	1
	Several stakeholders have formed a coalition to develop a Cardiac Ready Community effort coordinating with EMS, but there is no plan for sustainability	2
	A lead organization (e.g. fire, police, ambulance, board of health) is designated to oversee the Cardiac Ready Community effort involving various stakeholders (EMS, hospital, health care providers, businesses, schools, churches, etc.). There is no plan for sustainability.	3
	A lead organization is designated to oversee the Cardiac Ready Community effort, is involved from all sections of the community, is integrated into the EMS system, and has developed a strategic plan for sustainability of the program.	4

Must achieve a minimum score of 3 in the category

On-Going Community Education Campaign

Most people wait two hours or more to seek medical assistance after experiencing symptoms of a heart attack. Further, countless people travel to the emergency room by privately owned vehicle. Both of these issues are contributing factors to the high mortality rate associated with heart attacks. Ideally, people experiencing symptoms, or those with someone experiencing symptoms, will dial 9-1-1 right away for care and transport to a hospital in an ambulance.

An ongoing community education campaign should not only include information on how a person can reduce their risk of having a heart attack, sudden cardiac arrest or stroke, but just as importantly what to do should it occur. Various methods of education should be utilized such as printed education (flyers, brochures, "toilet talks", etc.), electronic education (social media pages, websites, marquees, etc.) and/or in-person education (education at schools, health fairs, lunch and learns, community events, etc.).

The program would also include the development and implementation of a system to track and evaluate the effectiveness of various marketing tools and methods.

While prevention is the preferred method of reducing the loss of life from a cardiovascular emergency, history has shown if the focus is on prevention alone you will have little impact on decreasing the incidence of sudden cardiac arrest.

It is the goal of the Cardiac Ready Communities program to improve community awareness of the signs and symptoms of a cardiovascular emergency (heart attack, stroke or sudden cardiac arrest) and to have citizens activate the 9-1-1 system in lieu of going to the hospital by a privately-owned vehicle.

Community Education Campaign

	The community is developing an Education Campaign specific to its needs and population that include hypertension, importance of calling 9-1-1, signs/symptoms of heart attack and stroke, healthy diet and exercise. This education has reached 30% of our adult population and includes various methods of education.	1
	The community has developed and implemented an Education Campaign specific to its needs and population that include hypertension, importance of calling 9-1-1, signs/symptoms of heart attack and stroke, healthy diet and exercise. This education has reached 40% of our adult population and includes various methods of education.	2
	The community has developed and implemented an Education Campaign specific to its needs and population that include hypertension, importance of calling 9-1-1, signs/symptoms of heart attack and stroke, healthy diet and exercise. This education has reached 50% of our adult population and includes various methods of education.	3

Must achieve a minimum score of 2 in this category

Community Blood Pressure Control Program

The leading risk factor for cardiac and a stroke event is high blood pressure (hypertension). Our state data reflects that these acute health events are occurring at an increasing level among our workforce age population set. 72% of all North Dakota stroke cases are identified with high blood pressure (HBP).

- 81% of ND strokes are under age 85, with 1/3 of those strokes under age 65.
- Only 1% of under age 85-ND hypertension cases were being treated prior to stroke for HBP
- 69% of Americans who have a first heart attack have blood pressure over 140/90.

High blood pressure causes microscopic tears in your arteries. Uncontrolled high blood pressure can also cause problems by damaging and narrowing the blood vessels in your brain. Over time, this raises the risk of a blood vessel becoming blocked or bursting. Knowing your numbers through checking your blood pressure, changing your lifestyle with physical activity and healthy food choices, and control – working with your health provider, can impact the cardiac and stroke events within your community. Cardiac Ready Communities will be required to report the number of undiagnosed hypertension patients found in screenings and the number of patients that followed up with referral with a provider.

Check. Community Awareness/Screenings

	A plan has been developed on how to screen the adult population. It has not been implemented yet.	1
	Community blood pressure screenings reached 30% of the adult community	2
	Community blood pressure screenings reached 40% of the adult community	3
	Community blood pressure screenings reached 50% of the adult community	4

Change. Education to the Screened Population

	During the blood pressure screenings, education (what do blood pressure numbers mean, ways to improve numbers, etc.) was provided to less than 10% of the screened population.	1
	During the blood pressure screenings, education (what do blood pressure numbers mean, ways to improve numbers, etc.) was provided to at least 20% of the screened population.	2
	During the blood pressure screenings, education (what do blood pressure numbers mean, ways to improve numbers, etc.) was provided to at least 30% of the screened population.	3
	During the blood pressure screenings, education (what do blood pressure numbers mean, ways to improve numbers, etc.) was provided to at least 40% of the screened population.	4

Control. Hypertension Referral Process

	Of those found with hypertension during the blood pressure screenings, at least 20% were referred to their primary care provider.	1
	Of those found with hypertension during the blood pressure screenings, at least 30% were referred to their primary care provider.	2
	Of those found with hypertension during the blood pressure screenings, at least 40% were referred to their primary care provider.	3

Minimum score of 9 from a combination of three sections

CPR & AED Training

There are several different CPR courses available through the American Heart Association and the American Red Cross. All provide valuable information for the general public. However, recent research has shown that for the average layperson, Hands-Only CPR (no rescue breathing) for teens and adults is just as effective and is more likely to be implemented in a cardiac emergency. Having law enforcement officers and fire fighters trained in high quality CPR as well as being equipped with an AED decreases the time from initial collapse to having a shock delivered to the heart.

The Cardiac Ready Communities Program promotes the cardiac chain of survival, which includes early recognition and initiation of CPR and does not differentiate between courses in which community members participate. Whichever course(s) is implemented should also include a section/module on the use of an AED to meet the other step in the chain of survival of having an electrical shock delivered to the heart within 3-5 minutes.

CPR Instructors

	Instructors are unable to teach enough courses to meet needs/goals. Instructors may be burned out from too much teaching.	1
	Instructors are teaching regularly scheduled courses, but not enough to meet need/goal	2
	There are an adequate number of instructors to fill need and reach goals for CPR courses. Courses are offered at a variety of times and days and cover the range of course levels.	3
	There are enough instructors to have a regular schedule of CPR classes without overload. The community tracks numbers of courses and students as an ongoing performance improvement indicator.	4

Hands-only CPR for the Layperson

	Less than 5% of age-appropriate population is trained in hands-only CPR	1
	10% of age-appropriate population is trained in hands-only CPR	2
	25% of age-appropriate population is trained in hands-only CPR	3
	50% of age-appropriate population is trained in hands-only CPR	4

Law Enforcement AED/CPR

	Less than 25% of Law Enforcement Vehicles responding in a community are equipped with an AED and have officers trained in CPR/AED	1
	25% of Law Enforcement Vehicles are equipped with an AED and have officers trained in CPR/AED	2
	50% of Law Enforcement Vehicles are equipped with an AED and have officers trained in CPR/AED	3
	100% of Law Enforcement Vehicles are equipped with an AED and have officers trained in CPR/AED	4

Fire Department AED/CPR

	Less than 25% of FD Responder Vehicles responding in a community are equipped with an AED and have CPR/AED trained personnel	1
	25% of FD Responder Vehicles are equipped with an AED and have CPR/AED trained personnel	2
	50% of FD Responder Vehicles are equipped with an AED and have CPR/AED trained personnel	3
	100% of FD Responder Vehicles are equipped with an AED and have CPR/AED trained personnel	4

Local Business Personnel AED/CPR

	Less than 25% of businesses in a community have CPR/AED trained personnel	1
	25% of local businesses have CPR/AED trained personnel	2
	50% of local businesses have CPR/AED trained personnel	3
	100% of local businesses have CPR/AED trained personnel	4

EMS AED/CPR

	Less than 25% of EMS responding in a community have CPR/AED trained personnel	1
	25% of EMS have CPR/AED trained personnel	2
	50% of EMS have CPR/AED trained personnel	3
	100% of EMS have CPR/AED trained personnel	4

Minimum score of 12 from a combination of 5 categories

Public Access AED Location

The American Heart Association reports that sudden cardiac arrest victims who receive immediate CPR and an AED shock within three to five minutes have a much higher chance of surviving. As a part of the Cardiac Ready Community Program, public access AEDs should be deployed in target areas throughout the community. Consideration should be given to deploying AEDs so that a shock can be delivered within three to five minutes of the event occurring and members of the community are encouraged to use an AED when the need arises.

It is the goal of the Cardiac Ready Communities program to have communities assess the locations of the AEDs currently available, report those locations to 911 dispatching and the local ambulance service and to develop a plan to acquire and distribute additional AEDs to adequately cover their community. Cardiac Ready Communities also assure that AEDs are registered with the local EMS provider and regional 9-1-1 dispatch.

Public Access Assessment Plan

	Location of currently existing AEDs in the community is known for most, but not all, AEDs	1
	Location of all currently existing AEDs in the community is known. A plan for assessing unmet AED needs, locations, and maintenance of AEDs is being developed.	2
	Location of all currently existing AEDs in the community is known. A plan has been developed to assess unmet AED needs, locations, and maintenance of AEDs.	3
	Location of all currently existing AEDs in the community have been mapped out. A plan has been developed to assess unmet AED needs, locations, and maintenance of AEDs. A copy of the current mapped AEDs has been provided to dispatch.	4

Public Building Assessment (owned by the government i.e. post office, schools, city hall, etc.)

	Less than 25% of public & school buildings have an AED available	1
	At least 25% of public & school buildings have an AED available	2
	At least 50% of public & school buildings have an AED available	3
	At least 75% of public& school buildings have an AED available	4

Private Building Assessment (not owned by the government i.e. gas stations, restaurants, gyms, etc.)

	0-15% of private businesses have an AED available	1
	15-25% of private businesses have an AED available	2
	25-35% of private businesses have an AED available	3
	35-50% of private businesses have an AED available	4

Minimum score of 6 in a combination of 2 categories

EMS Dispatching Program

Every community is unique in how Emergency Services are delivered. 911 dispatching is a key element in this process. Communities that have enhanced 911 improve response by knowing where the call is originating from even without the caller telling them. Having dispatchers trained in how to help a caller assess a medical emergency and giving directions on what to do over the phone greatly improves the chance of survival. Recent studies have shown that simply having dispatchers coach a caller through the steps of hands-only CPR vastly improves the chance of survival while risks from doing CPR on someone who doesn't actually need it are relatively low. Dispatch assisted CPR and Emergency Medical dispatching (EMD) are key components in the chain of survival.

Additionally, by using enhanced 911, a dispatcher is often times able to direct bystanders to the nearest location of an AED. Even without enhanced 911, if communities know the location of all AEDs and share that information with dispatch, the ability to get the AED off the wall and onto the patient is greatly improved.

There is strong evidence to show that dispatching law enforcement officers and/or fire department personnel, who may be closer to the emergency, greatly improves the chance of survival. Having dispatching protocols that include law enforcement and fire departments will strengthen the chain of survival.

It is the goal of the Cardiac Ready Communities program to have effectively used enhanced 911 in every community, to have all dispatchers trained in EMD and know the location of all AEDs, and to have law enforcement and fire personnel dispatched to emergencies as appropriate.

911 Dispatching

	9-1-1 personnel are trained and use emergency medical dispatching (EMD)	1
	9-1-1 personnel are trained and use emergency medical dispatching (EMD). EMD provides feedback to EMS on some cardiac arrest calls.	2
	9-1-1 personnel are trained and use emergency medical dispatching (EMD). EMD provides feedback to EMS on most cardiac arrest calls.	3
	9-1-1 personnel are trained and use emergency medical dispatching (EMD). EMD provides feedback to EMS on all cardiac arrest calls.	4

Minimum score of 2 from category

EMS Services

Having a well-trained EMS service is critical for an out of hospital cardiac arrest and stroke. Utilizing High Performance CPR, using an AED as soon as possible and having access to a 12 lead EKG to alert the receiving hospital to the patient's condition are all vital steps in the chain of survival. Access to a Lucas Device will assist with high performance CPR. Robust performance improvement (PI) through use of patient data and run reports ensures EMTs are striving for better patient outcomes. Some defibrillators and EKG monitors will print reports to determine the quality of CPR done during a response. An EMS patient record system that collects data on all aspects of a response, including times, treatment and outcomes is used for performance improvement. EMS trained on signs and symptoms and activation of appropriate alert based on transport plans.

It is the goal of the Cardiac Ready Communities program that all EMS personnel are trained in High Performance CPR and that all ambulances are equipped with an AED or other type of defibrillator. Further, services engage in PI through a planned program of run reviews and data analysis.

Ambulance Service

	Ambulance personnel use High Performance CPR and are AED/defibrillator equipped. They do not do PI on any cardiac arrest calls	1
	Ambulance personnel use High Performance CPR and are AED/defibrillator equipped. They do PI on some cardiac arrest calls	2
	Ambulance personnel use High Performance CPR and are AED/defibrillator equipped. They do PI on most cardiac arrest calls	3
	Ambulance personnel use High Performance CPR and are AED/defibrillator equipped. They do PI on every cardiac arrest call	4

Medical Control

	Medical Control and/or other appropriate hospital personnel provide feedback to EMS only when there is a problem or question	1
	Medical Control and/or other appropriate hospital personnel provide feedback to EMS on cardiac arrest calls, but not on a regular basis	2
	Medical Control and/or other appropriate hospital personnel provide feedback to EMS on most cardiac arrest calls	3
	Medical Control and/or other appropriate hospital personnel provide feedback to EMS on all cardiac arrest calls	4

Transport Plans

	State approved EMS plan, which includes transport of STEMI patients is created but not regularly reviewed	1
	State approved EMS plan, which includes transport of STEMI patients is created and reviewed at least every two years	2
	State approved EMS plan, which includes transport of STEMI patients is created and reviewed at least once a year	3

Minimum score 7 from a combination of all 3 categories

Hospital Services

Hospitals that have improved cardiac survival rates are prepared for cardiac and stroke emergencies and share common characteristics. They receive, interpret and make decisions prior to patient arrival based on incoming EKG transmissions from transporting ambulances. Emergency Department (ED) personnel are all trained and use High Performance CPR. Critical Access hospitals have established protocols for stabilizing and transferring patients. PCI hospitals (advanced cardiac care hospitals) are STEMI (ST Elevated Myocardial Infarction) prepared. Constant data analysis drives PI through informed decision making. The goal of the Cardiac Ready Communities is to ensure all hospitals are trained and utilize High Performance CPR. They are using data analysis to drive PI.

No Hospital

	No hospital, but transport plan to transfer to critical access or tertiary hospital are in place and reviewed regularly	4

All Hospitals

	Hospital ED personnel utilize High Performance CPR but do not do PI on CPR incidents	1
	Hospital ED personnel utilize High Performance CPR and do PI on CPR incidents some of the time	2
	Hospital ED personnel utilize High Performance CPR and do PI on most CPR incidents. Patient outcome data is shared with EMS personnel some of the time	3
	Hospital ED personnel utilize High Performance CPR and do PI on most CPR incidents. Patient outcome data is shared with EMS personnel most of the time	4

Critical Access Hospitals (CAHs)

	Are developing ED treatment and transfer protocols with PCI hospitals and EMS that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care	1
	Have treatment and transfer protocols but they have not yet been jointly coordinated with PCI hospitals and EMS	2
	Have developed ED treatment and transfer protocols coordinated with Receiving/PCI hospitals and EMS that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care	3
	Have developed ED treatment and transfer protocols with Received/PCI hospitals that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care. Hold multidisciplinary meetings with PCI hospitals and EMS to evaluate outcomes and PI data.	4

PCI Hospitals

	Have treatment and transfer protocols that have not been jointly developed with CAHs and EMS	1
	Are developing ED treatment and transfer protocols with CAHs and EMS that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care	2
	Have developed ED treatment and transfer protocols with CAHs and EMS that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care	3
	Have developed ED treatment and transfer protocols with CAHs and EMS that emphasize AHA systems approach to STEMI, Cardiac Arrest and Stroke patient care. Plans for reporting patient data and outcomes back to CAHs and EMS have been developed.	4

Minimum Score of 4 from a combination of 2 categories except No Hospital

Cardiac Ready Community Program Evaluation

To ensure that the Cardiac Ready Community Program is implemented and utilized effectively, annual review of the system needs to occur. Frequent review and practice ensure that all steps in the Chain of Survival, as well as other components, are seamlessly combined. By practicing scenarios that include bystander CPR, use of an AED within 3-5 minutes, dispatcher aided CPR, appropriate dispatching of emergency response personnel, and use of high-performance CPR by responders and the hospital, communities will be better prepared for a true emergency. Having a process in place to implement these practice scenarios, combined with review of the outcomes will identify gaps and errors, which will improve responses in the future. Further, reviewing all actual emergency responses to cardiac events will provide valuable information, provided a process is in place to ensure the review happens.

The goal of the North Dakota Cardiac Ready Communities Project is to help communities in North Dakota improve their cardiovascular health and increase the chance that individuals suffering from cardiovascular emergencies will have the best possible chance for survival. Implementing a review process is the means of showing the goal is being addressed and continues to be improved upon.

Upon being designated as a Cardiac Ready Community, it will be expected that your community will continue to track and evaluate the effectiveness of your efforts. A short annual report will need to be provided to the North Dakota Department of Health, Division of Emergency Medical Systems. There will be a form your community may use as a guideline for your report; this form will be provided to you upon designation.

For Further Questions, Please Contact:

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